

# DIFFUSION COATING PROCESS

## Abstract

A process capable of depositing a diffusion coating of uniform thickness on localized surface regions of a component. The process makes use of an adhesive mixture containing a binding agent that is consumed as part of the deposition process so as not to negatively affect the quality and uniformity of the resulting coating. The process entails mixing a particulate donor material containing a coating element, a dissolved activator, and a particulate filler to form an adhesive mixture having a formable, malleable consistency. The adhesive mixture is applied to a surface of the component, and the component is heated to a temperature sufficient to vaporize and react the activator with the coating element of the donor material, thereby forming a reactive vapor of the coating element. The reactive vapor reacts at the surface of the component to form a diffusion coating containing the coating element.